IMAGE

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OF THE GEORGE EASTMAN HOUSE

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WANTED:

HISTORIANS OF PHOTOGRAPHY

EDITORIAL

Photography has always had some kind of history. From the beginning, photography has had its own historians. Daguerre's own 1839 instruction manual was titled History and Description of the Processes of the Daguerreotype and the Diorama. *Fox Talbot wrote* The Pencil of Nature *in 1844 "to place on record some of the early beginnings of a new art . . . " Within the first decade the claims of these inventors and scores of others were the subject of articles and even books.*

When other techniques were developed, this kind of historical pattern was repeated over and over again, with each inventor asserting his claim to priority.

These chronicles, however valuable, do not constitute in themselves the history of photography. A. Kraszna-Krausz points out in his article "The Historiography of Photography" in the new Focal Encyclopedia of Photography *that "what we have of contemporary or near-contemporary writings befogs rather than illuminates the origins and decisive turns of the art. The historian, being forced to accomplish first a great deal of original field research, is in danger of getting prematurely exhausted and myopic. Unskilled or limited research is easily satisfied with its own results and proceeds to vest its guiding interests in them; dates and names that are but pegs on which to hang a tale will then be mistaken for the whole story."*

The history of photography in the rounded sense of "a grand synthesis," as Kraszna-Krausz puts it, has yet to be written—due largely to the scarcity of scholars who are equipped and prepared to subject photography to the kind of examination, interpretation and interrelation which are well established in such other fields as medicine or art.

We agree wholeheartedly with Kraszna-Krausz when he pleads for "more scholarly monographs, dispassionate biographies and thoroughly researched local and national histories," and advises new historians of the value of "working to limited objectives and presenting balanced views of specific areas rather than . . . staking comprehensive claims of coverage based on incomplete or uneven material."

Image *welcomes just this type of historical study. And it is the hope of the editors that what it publishes by guest writers as well as staff, will provide future historians with essential building blocks for "the grand synthesis" which can only be produced when sufficient scholarly research has not only been accomplished but published for all to read and use.*

BEAUMONT NEWHALL

The Film Career of John Barrymore

by Spencer M. Berger

EVEN TODAY, CLOSE TO FIFTEEN YEARS after his death, John Barrymore still seems in many ways a paradox. During his roller-coaster life he earned adjectives on the order of witty and erudite, lovable and sensitive, dedicated and dazzling; yet on occasion he could prove himself so exasperatingly the reverse of these qualities that his mold appears to have been a dual one, patterned after both Jekyll and Hyde. His friendships ranged from Einstein to Kid McCoy. He received much fulsome praise, yet rarely demonstrated either the desire or the capacity to take himself seriously. Unlike film stars who toady to their chroniclers, he freely hailed the queen of all the columnists as "a quaint old udder." And the actor who could run rings around his rivals when he wished was also a man who hated to act. All of which led his brother to admit: "What the life-long search was all about that impelled him to acts that were sometimes mad, sometimes irresponsible, sometimes brilliant, I can explain no better than anyone else."

It is well known that John Barrymore was born into an illustrious acting dynasty on St. Valentine's Day in 1882. But when he himself entered the theatre there was so little to suggest future mastery of the family art that a critic wrote that he "walked about the stage as if he had been dressed up and forgotten." Irresponsible as the wind, he began acting because it was the natural thing for a Barrymore-Drew who had failed at painting to try next.

Young Jack Barrymore was not without personal charm, for even in that nebulous era he had a well-read mind, a sparkling vocabulary, a bizarre humor which enchanted large numbers of the opposite sex. When he finally found his way into several comedy successes, hope grew that one day he might acquire the polish of uncle John Drew, the master farceur. But suddenly, after fifteen years of cavorting on stage and off, Barrymore began a wholly unannounced surge to the pinnacle of his profession by demonstrating—first in Galsworthy's *Justice*, then in *Redemption*, *Peter Ibbetson*, and *The Jest*—that he had become an intelligent, exciting, sensitive artist.

It was in 1914, two years before this remark-

Barrymore as ***Hamlet*** in 1922 moved Arthur Hopkins to call him "the only full-grown theatre artist of our time."

able metamorphosis began, that Barrymore took on motion pictures as a sideline. His brother Lionel had started at Biograph under Griffith in 1911; Zukor had inaugurated Famous Players with Sarah Bernhardt's *Queen Elizabeth;* and other stage stars fattening their purse in this fashion included Pauline Frederick, Walter Hampden, Jane Cowl, J. Forbes-Robertson, and Ethel Barrymore, who lent her regal air to thirteen silent productions between 1914 and 1919. Although the film players reaching greatest popularity were those largely developed in this medium and discovered by its own audiences, between 1914 and 1918 Barrymore starred in ten bouncing farces for Famous Players which were well received because they were several cuts above the average of the day. Aside from the welcome remuneration, Barrymore's delight with this slap-stick series stemmed from his enjoyment of the pratfall, a violent maneuver he held in such esteem that he managed to introduce a dramatic variation of it in his *Dr. Jekyll and Mr. Hyde.*

On *The Quiet,* 1918 with Lois Meredith. This farce was Barrymore's tenth film; his first was made in 1914.

Because Barrymore could now literally look at his own work for the first time (much as he had stood back from the drawing board and easel), those early films unquestionably helped stir him to self-improvement. Some years after his screen debut, he wrote of it: "I found that I over-acted many of the scenes, that missing the stimulus of the audience I became indiscreet . . . I had been prewarned, but I had a feeling that if I worked hard enough I could make the electricians and the cameramen laugh and they would take the place of a theatre audience. The result was woeful and unreal." Soon, however, *The New York Times* could report that "No actor needs fewer subtitles to make him intelligible," and after 1918 Barrymore's pre-Hollywood films followed his plays away from comedy — a trend climaxed by his powerful Jekyll-Hyde performance in 1920. Clearly he was ready for the push to the last peak, and equipping himself for it was his most sustained effort.

Enjoying all the physical requisites except voice (his had been described as "dry and monotonous, sometimes slovenly and common"), Barrymore spent months in re-shaping it. And Arthur Hopkins, the producer-director of his best theatre work, assures us that "Of all the actors I have known, he was the most conscientious and untiring in preparation." Most importantly, the actor looked within himself and drew upon his own high intelligence and perceptive instincts, so that on his lips the words of Shakespeare vibrated with clarity, spontaneity, and beauty. Breaking from the rococo school, he blazed an exciting new trail which lay between the bombast of yesterday and the mumbling of today.

Thus, when Barrymore enacted *Richard III* in 1920, Heywood Broun found it "the most inspired performance which this generation has seen." And when the actor faced up to *Hamlet* two years later, his interpretation created even greater impact. Many years afterward, in reviewing Gielgud's go at the role, Richard Watts, Jr., confessed: "My standard of excellence in the characterization of Hamlet is frankly Mr. Barrymore. His was, to my mind, not only the finest

John Barrymore went to London to film portions of the 1922 ***Sherlock Holmes.***

portrayal of the role I have ever seen, but was also the most magnificent piece of acting within my memory." More recently, when Helen Hayes selected the most memorable performances of her experience, she wrote: "For me, Barrymore simply *was* the Prince of Denmark." Arthur Hopkins summed it up by saying that, with *Hamlet,* John Barrymore proved himself "the only full-grown theatre artist of our time."

Much has been made of Barrymore's subsequent abdication from the theatre. Certainly the whole cause was not laziness, for he demonstrated zeal aplenty when in a creative mood. Nor was it altogether the generous film contract offered him, for his stage work had been rewarding him rather handsomely. Rather, the reason seems to revolve about his congenital inability to cope with the repetition which the theatre demands. Critic Watts viewed his *Hamlet* five times, of which three were "the most stimulating performances I have ever encountered, and twice it was obvious that he was merely going through the words and the motions."

Whatever the reason, John Barrymore – the most eminent actor in America, just past forty and at the height of his powers – renounced the theatre and moved to Hollywood. Since films were to remain voiceless for several more years, his appearance at this juncture assumes extra importance. The profile of his face indeed followed classic proportions, especially when viewed from the left side, which offered a better hair line and a more neatly arched nostril. His eyes were his most expressive feature – as, indeed, hypnotic eyes have been a family trademark. He was lithe and well-coordinated, ever poised to assume the exact stance, gait, or hunch of the character at hand; and so perfectly proportioned was his entire body that he rarely seemed to be the rather small man he was, requiring a boost in elevation to play romantic scenes with tall women like Garbo.

Beau Brummel was a sensible choice for Barrymore's initial Hollywood vehicle and a re-

spectable job of film-making as well. It won fourth place in *Film Daily's* poll of critics to determine the "10 Best" of 1924, being preceded by Fairbanks in *The Black Pirate*, Milton Sills in *The Sea Hawk*, and Valentino in *Monsieur Beaucaire*. Next, at the urging of the star who himself loved to put to sea, came a filming of *Moby Dick* (rechristened *The Sea Beast*), to which Dolores Costello was added for box-office insurance. While Barrymore was delighted with the frequency, duration, and voltage of the love scenes with this actress (whom he later married), their amorous display struck such a responsive chord in the heart of all gum-chewing Americans that in his five remaining silents he was forced to play, in his own words, a "sweet-scented jackass." With those films increasingly bogged down by plastic views of the Barrymore profile, things got so bad so quickly that Robert E. Sherwood's review of *Don Juan* in the old *Life* pronounced: "There never was a worse performance in the history of the world."

As if it were not enough for the Great Actor to receive consistent critical roasting during the latter twenties, at least two other men (Gilbert and Valentino, who made no Great Actor pretense) were roundly beating him at the box-office in his new game of playing the Great Lover. Nor could it have cheered Barrymore that Rin Tin Tin was becoming the more valuable "property" for their joint employer. The final blow to his sagging career (Hopkins bitterly remarked that he had become "embalmed in celluloid") was his tardy entrance into talking pictures.

Although the first Vitaphone program in 1926 included the Barrymore *Don Juan* fitted with synchronized music and sound effects, speech was not introduced into features until more than a year later – which, ironically, was near the time that he left Warners in hopes of recouping prestige as a member of the then-exclusive United Artists. Shifting studios made matters even worse, however, for it took the actor three years to finish as many films, all were of less than epic quality (*Photoplay's* review of the last concluded with "Remember when he was your favorite actor?"), and they were silent at a time when "100% All-Talking" banners on theatre marquees across the land were welcoming new personalities like Jolson and Arliss.

As Francois Villon in 1927, Barrymore was able to indulge his steadfast love of Gothic romance.

A sadly tarnished Barrymore returned to Warners, where he promptly redeemed many a cinematic sin by reciting with all his old cunning a *Richard III* soliloquy in an otherwise negligible "all-star revue." Despite growing addiction to alcohol and another marriage straining at the seams, he took an active hand in the scenarization of his first talking feature, *General Crack*, the tale of a soldier of fortune under Leopold II of Austria. His copy of the source novel contains a dozen sketches for costumes and make-ups, as well as numerous notes on the order of "All these lines should be acrid and amusing" and "If this stays in, it should be a compelling, vital, magnificent speech – a stunt!"

Barrymore's four remaining Warner films gave him a gratifying range of acting opportunity, but failed to stimulate markedly more excitement at the box-office than had his last silents. In *The Man From Blankley's* he played a spifflicated beetle-collector who blunders upon a party awaiting a hired guest to make fourteen at dinner. Although the role of Lord Strathpeffer remains a monument to Barrymore's genius for satire, the uncomprehending reaction of Photoplay's review ("This is John's little joke, and we refuse to take it seriously") was painfully prevalent among lay audiences. For a change of pace he then re-made *Moby Dick* in sound. Huston's recent version indeed benefits from color, an improved whale, and hewing more closely to Melville; but many who also saw Barrymore's Ahab wished that Gregory Peck might have conveyed more of his desperate drive. Next – having a strong love for the macabre, which shaped his early paintings and later drew him to *Richard III* – he zestfully undertook the filming of *Svengali*. It was followed by a thin reworking of the same theme which interested film-goers even less.

On stage or screen he took a romanticist's delight in destroying his handsomeness with grotesque make-ups. Left to right he appears in: *Richard III*, (stage 1920); making up for *Bulldog Drummond's Revenge*, 1937; *Svengali*, 1931; *Beloved Rogue*, 1927; *Arsene Lupin*, 1932; *Don Juan*, 1926; *Twentieth Century*, 1934; *Dr. Jekyll & Mr. Hyde*, 1920.

Although heads were rolling all over depression-ridden Hollywood, Barrymore now contracted to spread his services between two eminently astute producers of the time, Irving Thalberg of M.G.M. and David Selznick, first at R.K.O. and then at Metro. Partly because he had less to do with the formulation of his vehicles and was given less florid roles to play, and partly because the still-new medium of sound was being put to increasingly better use, the years 1932-1934 saw his finest film acting. First Thalberg paired him with Lionel in *Arsene Lupin* for their initial film together (an event celebrated with their photograph on the cover of Time). *Rasputin And The Empress* (filmed, appropriately, while the Olympics were being held in Los Angeles) joined John and Lionel with Ethel for their only appearance together in any medium; in *Grand Hotel* the brothers shared honors with Garbo, Crawford, and Beery; Dressler, Harlow, and Beery appeared with them in *Dinner at 8;* and in *Night Flight* their co-stars were Helen Hayes, Gable, Robert Montgomery, and Myrna Loy.

Interlarded with those star-crammed ventures were three comedies and two dramas in which Barrymore created full-length portraits of astounding variety. It is unfortunate that this work, well beyond the range of any other actor of his time, failed to stimulate warmer public acclaim; but, just as in his Great Lover days when his perfect profile and imperious mien made girls less giddy than the smoldering Valentino or the dashing Gilbert, so many film-goers now missed in him the cracker-barrel warmth of Walter Huston, the gentlemanly graces of Arliss, the ingratiating crotchetiness of his brother. But even though his playing sometimes reflected the sardonic tinge to his manner or a disconcerting facet of his paradoxical personality, at least the critics who had been struck dumb by the voiceless Great Profile were now unstinting in their praise.

In *Topaze* Barrymore played a gentle and befuddled school teacher with such delicate whimsy that the National Board of Review selected the film to lead its "10 Best" list for 1933, saluting especially the star's "remarkable characterization." The actor then transformed himself into the amorous, arrogant arch-duke of Sherwood's *Reunion in Vienna.* And soon, still another world apart but equally inimitable, came *20th Century* and his portrayal of producer Oscar Jaffe – charlatan, bully, egomaniac, genius – a boisterous burlesque of the Belasco era, wasted on a public not yet attuned to screwball comedy.

John Barrymore and Douglas Fairbanks were fellow United Artists in 1927.

On the serious side Barrymore performed effectively in *Counselor At Law* under William Wyler's direction; and with *A Bill of Divorcement,* in which Hepburn made her film debut, Selznick gave him his finest dramatic opportunity. His sister cheered him on with "You are very good. In this one you are not an ass:" both the *National Board of Review* and the *Film Daily* poll placed the film among the "10 Best" of 1932; and Selznick maintained (long after the commercial life of the film was done) that Barrymore gave "the greatest all-time performance on any motion picture screen."

It was not until twelve years after *A Bill of Divorcement* was filmed that Gene Fowler's fine biography of Barrymore suggested what black dreams that story of hereditary insanity must have conjured up for the actor. Ever mindful that his father finished life in a mental blackout, he began to suffer memory lapses of such sever-

ity that Selznick was forced to cast aside the golden dream of filming his *Hamlet*. Just as a decade earlier he had fled the theatre in quest of professional freedom, in 1934 Barrymore deserted a half-completed film and, in a panic-born quest for personal freedom, he took abrupt leave of Hollywood for more than a year. The days of his long-term starring contracts were done.

For eight more years Barrymore lived a sorry epilogue to his time of greatness. The effect of liquor, shaky health, bankruptcy, and other harassments so ravaged his features that after examining them in a mirror, he remarked to this writer: "I look these days like an injudicious cross between Norman Kerry and Wally Beery." Always a man of gusto, he splashed his peccadilloes across a canvas as large as he had used for his triumphs – a fourth marriage which sold many tabloids, an abortive return to the theatre, and an excoriating radio series up to the end.

There were also seventeen more motion pictures. Increasingly scornful of the profession which required him to paint his face and pre-

In ***Grand Hotel,*** 1932, Barrymore complimented Greta Garbo with one of his most charming performances.

The Barrymore version of the Great Lover was fixed in 1926, when as Don Juan he conquered eight beauties only to be brought to his knees by Mary Astor.

tend to be someone else, Barrymore now seemed to turn upon himself with such self-destructive mockery that the sensitive artist of other days was all but crushed by a noisy, grimacing buffoon – Hyde triumphant at the curtain's fall. Except for the rare challenge, as when Thalberg entrusted him with the role of Mercutio or when Garson Kanin's *The Great Man Votes* gave him his last moments of serious acting, those final films were trash—full, he said, of "etymological ordure" with which he did not care to clutter his mind.

However accurate his critical appraisal, the truth is that toward the end his uncertain memory forced him to read his lines from blackboards, a procedure which director Kanin described thusly to this writer: "A little fellow who worked for The Great Man had charge of it, or them I should say, because there were three which varied in size, depending on the length of the speech. One day we were making a very short shot. A character entered and said to Barrymore, 'Are you Gregory Vance?' his reply was, of course, 'Yes.' When I saw this little

Bill of Divorcement, **1932, brought Hepburn to the screen and gave Barrymore one of his most memorable film roles.**

man write 'yes' on the blackboard, it was almost the last straw. I said, 'You don't have to have *that* on the board, do you?' Barrymore replied 'Why not?' and I said 'What else could you possibly say?' He thought a moment and said 'No.' "

John Barrymore died of an accumulation of ills on May 29, 1942, some three months after his sixtieth birthday. Because *Hamlet* was his most famous role, it is sometimes assumed that essentially he was a dramatic actor who demeaned himself by starting and finishing his career in comedy. That he could enjoy performing solid drama he demonstrated with his own words: "You have to get right down into a big scene and take hold of it with both hands. An actor must throw a little of his liver to the audience." Yet in mid-career he wrote: "Now that I have played serious parts, I know that comedy is a truly fine thing and the more difficult to do."

Truth to tell, Barrymore was master of a remarkable range of roles – ever the conscious artist, fully in command of each trick of his trade, possessed of more of the magic called "presence" than any other player of our time. Although the country was hard at war when he died, the New York Herald Tribune took editorial space to cite the painful truth that he had achieved only a fraction of the fine things expected of him; but it then went sensibly on to ask if America had ever had an actor better than John Barrymore at his best. Unquestionably the paradoxes, the confusions, the rebellions which tormented the man were born of the same spirit which, when his personal gods allowed, set his acting ablaze with the rarest sort of flame.

The Focal Encyclopedia of Photography

THE PUBLICATION of the *Focal Encyclopedia of Photography* is an outstanding achievement in the progress of photography. Whereas most achievements occur in design, or principles, or manufacture, this one occurs in an area of photography that has heretofore either been indifferently surveyed or neglected altogether.

The Focal Press of London has been publishing books on photography for over thirty years. Big books, little ones, their list is the most complete of any publisher. Furthermore their books are well known for readability, for authenticity, for an honesty of approach. To a truly impressive publication program then, is now added this Encyclopedia. Comprehensive, meaty, considered, expert-guided throughout, it is doubtlessly their crowning achievement. The Focal Press is to be congratulated.

The introduction is concerned with statement of policies, reasons for omissions, reasons for inclusions and many other comments of no little interest to the reader. We learn, for instance, that the editors aimed at a certain type of reader; one who was neither expert nor ignorant. They asked nearly two hundred experts to write, in lucid and informative style, some two thousand articles for the type of reader they called the "actively interested person." (As might be expected, the expert in one field is often the actively interested reader in another.) Furthermore it is up to date; the outmoded material appears in the various historical articles.

One of the most valuable policies that was used to direct the editing of the Encyclopedia was an emphasis on "ascertainable facts" in preference to "eloquent opinion," to the objective rather than the subjective. Hardly any other policy would be expected in the technological fields to which large sections of the book are devoted. In the fields of esthetics, criticism, pictorialism, value, in short, photography as an art form, where opinion is fact, this policy proves interesting indeed. Those of us who are trying to develop photography by opinion – which we can but hope may be considered eloquent – will welcome the solid facts and considered definitions on the more intangible aspects of photography found in the Encyclopedia. With definitions that are well thought out, sound, and succinctly stated given the wide currency which the Encyclopedia will do, anyone writing on such things as criticism, or creativity in the medium will not have to constantly redefine these basic words. Upon this foundation subjective opinion can continue its research.

The entries concerned with such matters are mainly the work of the Chairman of the Editorial Board; and the shrewd appraisals of issues which have caused much heated argument in the past, and promise to be only slightly less warm in the future, by A. Kraszna-Krausz show the mark of an objective mind at work. Considered as his opinions are, there is room for readjustment and it is to be expected that a few photographic estheticians will take up their pens with enthusiasm.

Scanning the list of experts it is educational to note that none of them are well known as estheticians devoted exclusively to the field of photography. Is this because no one person has as yet identified himself with the subject?

The entries in the Encyclopedia are short by necessity, yet article length where needed. Many entries give additional references and excellent bibliographies. To aid location of related material the Encyclopedia uses an excellent device. It has a Synopsis of Subject Divisions. Here some fourteen complex subjects such as Optics, Image Management, Cinematography are listed, and all the major articles named that link these subjects together. Consulting this section the reader is able to find among the scattered articles the brief books on various subjects that are literally within the covers of the Encyclopedia.

A welcome feature of the new encyclopedia is the amount of material given on the history of photography. There are extended articles on the development of photography in various countries – including the most complete account of activity in Russia from 1839 to the present day yet to be published in English. There are also brief biographies of leading inventors, scientists and photographers. We know of no reference book in any language which so conveniently provides basic biographical information about the men who made photographic history.

Instruments for Measuring Exposure

by Eugene P. Wightman and Beaumont Newhall

This is the first of a series of articles on exposure calculators, meters, and other exposure devices, based on the outstanding collection formed by the late Joseph Bing and presented to the George Eastman House in the memory of her husband by Mrs. Bing. For further information, Associates are invited to correspond with the authors.

WHEN PHOTOGRAPHY WAS FIRST INVENTED, cameramen despaired at finding an accurate way to judge exposure. Their earliest accounts, dating from the year of publication of both Talbot's and Daguerre's processes, emphasize this problem. The factors governing exposure were not clearly known. It was even thought that the direction and strength of the wind, as well as the amount of light reflected from the objects, might influence the time the lens was opened.

Within the first year, however, experiments were begun to solve this problem. Exposure tables appeared in manuals, and crude devices for measuring what was then called the "actinic" power of the light began to be worked out. But as long as the photographer developed his images directly on the spot, as most of the early processes demanded, there was hardly any need for calculation. If the picture didn't come out, a new plate was made ready and a new exposure given.

With the introduction of gelatin plates, manufactured under controlled conditions and made to give uniform response to light, a great change in technique took place. The photographer left the processing for later or had it done by somebody else and the immediate field check was no longer the rule. In bewildering rapidity a wealth of instruments were invented to make sure that the plate was properly exposed.

These can be broadly classified as (1) exposure tables, guides and calculators; (2) chemical type meters, or actinometers; (3) photometers or physical meters. Within these three major classifications are subdivisions which will be defined in later articles in this series. A fourth group can be added, to include miscellaneous meters employing other methods of measuring light—such as "pupillometers" (which measure the diameter of the iris of the eye of the photographer himself — or of his pet cat), thermoluminescence meters, radiometers, and photoconductance meters. These have seldom had any practical value.

EXPOSURE TABLES

The first man to make a photograph in the United States of America, D. W. Seager, published the first exposure table in the appendix to a reprint of Daguerre's manual in 1840, which appeared in the *American Repertory of Arts, Sciences and Manufactures* for March, 1840. It was based on data collected by Seager from October to February photographing "ordinary city views." Two factors are equated: the state of the weather, and hours of the day. As the camera specified by Daguerre had a fixed diaphragm of *f*/15, the light-passing factor of the lens at various apertures was not considered. James J. Mapes, the editor, pointed out that two additional factors should be taken into account: the season (summer, winter) and the type of subject matter ("a white marble edifice, for instance, requires less time than darker buildings.")

The shortest exposure in Seager's table is 5 minutes, and the longest is 70 minutes. This corresponds almost exactly to an exposure table published in France by Daguerre's assistant, Hubert, as an appendix to Macedoine Melloni's *Rapport sur le Daguerréotype,* (Paris, 1840.) Hubert equated the following: *Light conditions:* "Full Sun," "Diffuse Light." *Season of the Year:* "Summer," "Winter." (In a note he states: "There are times between those listed, for spring and autumn.") *Latitude:* " . . . it is necessary to establish a factor for southern countries, where only half the time is needed." *Lens:* "Add the difference of sensitivity of lenses . . . " *Sensitivity of material used:* ". . . the slowness resulting from a strongly iodized plate." *Weather:* "The passage of a cloud, etc."

"This large array of figures, which appears exaggerated," Hubert wrote, "might frighten

TABLE OF GENERAL RULES

FOR EXPOSURE OF THE PLATE IN THE CAMERA, IN TAKING EXTERIOR VIEWS.

☞ The following Table is compiled partly from observation, and partly from analogy, and applies only to the period from the month of October to February. The observations were made upon ordinary city views.

STATE OF THE WEATHER.	HOURS OF THE DAY.						
	8	9	10	11 to 1	1 to 2	2 to 3	3 and after
	MINUTES.	MINUTES.	MINUTES.	MINUTES.	MINUTES.	MINUTES.	MINUTES.
Very brilliant and clear, wind steady from W. or N. W., very deep blue sky, and absence of red rays at sunrise or sunset. Time employed	15	8	6	5	6	7	12 to 30
Clear, wind from S. W., moderately cold, but a slight perceptible vapor in comparison with above. Time employed	16	12	7	6	7	8	15 to 40
Sunshine, but rather hazy, shadows not hard, nor clearly defined. Time employed	25	18	14	12	14	16	25 to 40
Sun always obscured by light clouds, but lower atmosphere, clear from haze and vapor. Time employed.	30	20	18	16	15	20	35 to 50
Quite cloudy, but lower atmosphere, free from vapors. Time employed	50	30	25	20	20	30	50 to 70

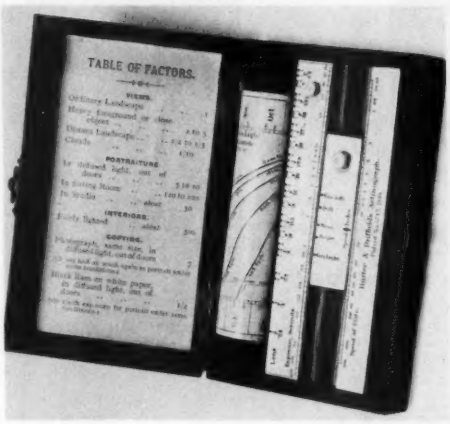
It is impossible at present, to state precisely the time required to expose the plate in the camera at all seasons of the year; but the above table, drawn up by Mr. D. W. SEAGER, of this city, and which coincides in general with the observations of others, may prove useful as a guide to experimenters. The time will necessarily decrease as the summer months approach. Much, however, depends upon the selection of the view; a white marble edifice, for instance, requires less time than darker buildings. ED.

This photographic exposure table is based on data collected from October to February by D. W. Seager. It was published in an American reprint of the Daguerre Manual in 1840.

the beginner photographer; but nevertheless fewer cannot be given, and perhaps more should be added . . . Only indications can be given and not precise exposure times for every case." And he concludes by advising the photographer to learn to time by making test exposures of varying length covering half the plate at a time.

This advice was an admission of failure. Occasionally other exposure tables appear in early manuals, but for the most part little was done until scientific experiments were carried out to determine the amount of light received on the earth by the sun at various latitudes for every hour of every day of every month of the year. In 1857 Robert W. Bunsen and Henry E. Roscoe presented to the Royal Society the first of a series of papers in which they reported the observations which led to our first scientifically accurate data on the relationship of sunlight and seasons. They proved that, year in and year out, the amount of light sent to the earth by the sun was the same for any hour of any given calendar day. Of course, the percentage of this light which reached the ground varied according to the weather. However, this basic discovery nar-

The earliest Watkins exposure calculator required the use of a separate actinometer for measuring light intensity. This is about 1890.



The Actinograph of the British scientists Hurter and Driffield was patented in 1888. This is a calculator as opposed to a table to determine exposure.

rowed down the number of unknown factors which had to be considered by the photographer, and it was relatively easy for him to qualify the light conditions under such headings as "bright sun," "cloudy bright," "dull," etc. Using the Bunsen and Roscoe data, John Alfred Scott compiled, in the middle 80's a "Table of Comparative Exposures," which appeared in the *British Journal Photographic Almanac* for the years 1886-1887. This table consisted of factors by which the standard exposure (June, from 9 to 12 AM) was to be multiplied.

Scott's table was not an exposure guide, for it did not give lens and shutter settings. It simply indicated how much the time should be increased when photographing the same subject under the same conditions at any other time than noon in June.

In the meantime a table was devised by W. K. Burton, an amateur photographer, author of many manuals, and later Professor at the Imperial University of Tokyo. Burton equated the newly-introduced *f*/ numbers (designating the size of the lens diaphragm) against eight common picture situations: Seas and Sky, Open Landscape with Heavy Foreground, Under Trees, Fairly Lighted Interiors, Portraits in Bright Diffused Light Outdoors, Portraits in Good Studio Light, and Portraits in Ordinary Rooms. He gave exposures in seconds and minutes for these apertures and subjects. He made no provision for taking into the calculation the strength of sunlight.

Burton's table, the forerunner of dozens of variants, was published in the *British Journal Photographic Almanac* for 1885. It appeared in the 1886 and 1887 editions of the *Almanac* together with Scott's table.

But even using both tables – a cumbersome operation – the photographer got but a partial answer, for neither Burton nor Scott related the exposure times to the sensitivity and make of the plates used in the camera. Nor was there any indication of the effect of development on the degree of light-sensitivity of the plates. The photographer was expected to make trial exposures for one set of conditions, and use this as a basis for the calculation of exposures under the various combinations listed in the tables.

EXPOSURE CALCULATORS

Amateurs did more than professionals to invent and improve devices for determining exposure. As late as 1887, in his handbook, *A Quarter Century of Photography*, Edward L. Wilson wrote that "Exposure is largely a matter of inspiration, of feeling. There is no royal road to its proper attainment. You must learn how, just as you must acquire musical excellence or master a language. You must go through the experience and the plate-spoiling with the disappointments incident thereto. Then it will come to you – to stay."

Such an empirical approach was completely unacceptable to two amateur photographers who were trained scientists: Ferdinand Hurter and Vero C. Driffield. "It became intolerable," wrote Driffield in a manuscript now preserved in the Royal Photographic Society, "to practice an art which – at that time – was so entirely governed by rule of thumb." The friends began a careful investigation into the theory of the photographic process and a practical system for determining exposure, and for processing their photographs. In 1888 they patented their "actinograph" – an ingenious slide rule arrangement of logarithmic scales which made it relatively easy to equate the variables which affect exposure. Their meter was a part of their classical system, upon which modern sensitometry is founded.

With painstaking care, Hurter and Driffield calibrated their scales from data which they col-

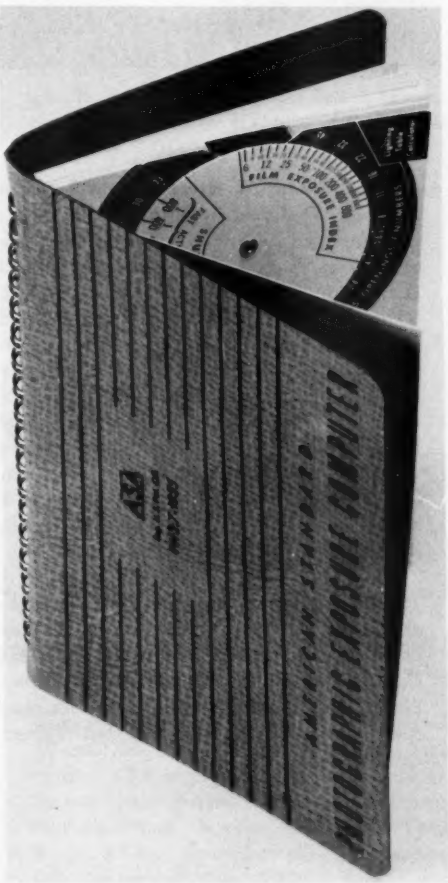
A variety of exposure calculators published since 1890. Reading left to right from the top: "Universal" Pose-Metre, French, 1900; Lumière exposure calculator, French, undated; Harvey Exposure Meter, American, 1916; Practical Exposure Disk, American, 1918; Dibdin's Automatic Exposure Meter, English, 1894; Forestier's calculator, French, 1891; Tonnies' Belichtungsmesser, German, undated; MacMillan's Exposograph, American, 1916; Le Posograph, French, English edition, no date; Wellcome Exposure Calculator, British, 1939.

lected by daily observations. With a self-recording model of their patented "actinometer" – a differential thermometer which measured radiation – they measured the intensity of light continuously for upwards of a year. From these data they drew a light-intensity graph which was fitted around a drum. In contact with it, they provided a sliding scale of lens apertures (with allowances for the construction of the lens). The other side of the scale was marked with exposures, in seconds. A second sliding scale was marked with the weather condition, and an index, which was set opposite the fixed "Speed of Plate" scale. The latter was calibrated from the exhaustive researches which Hurter and Driffield made with their sensitometer and densitometer.

Simpler forms of slide rules, made of cardboard with one or more rotating discs became increasingly popular, such as the Ilford Exposure Reckoner of 1893, designed by John Alfred Scott, and based upon his tables. Many of them used the Hurter and Driffield speed values.

Exposure calculators, once so popular, have almost disappeared in these days of inexpensive photoelectric exposure meters – the history of which will be traced in a later article. However, calculators are by no means obsolete, and are especially useful for the novice. The photoelectric meter is expensive for the casual photographer to purchase, and unless used with discretion may well indicate erroneous exposures. For average subjects, well lighted, and of fairly short scale, a calculator provides excellent results with present day materials. Of those now available, the Photographic Exposure Computer developed by the American Standards Association and the Kodaguide Snapshot Dial of the Eastman Kodak Company are typical. They differ but little from nineteenth century calculators–with the important exception that the exposure indicated at noon in summer with an average subject under bright sun is 1/200 of a second at *f*/16 with standard high-speed film. Sixty years ago the shortest time a photographer could give under such conditions – as recorded on the "Imperial Exposure Reckoner" –was 1/5th of a second.

Calculators are still in use, this one was published by the American Standards Association in 1955.

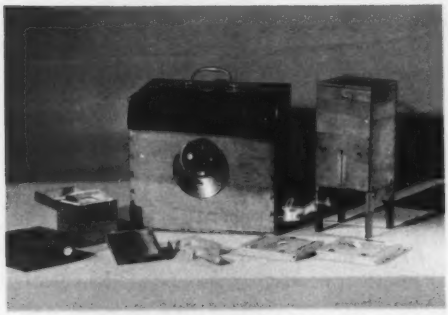


Music For The Movies

In the early days when it was customary to accompany the showing of silent films with piano music, some remarkable matings of score with pictures happened.

During the showing of the Italian film *A Human Sacrifice,* a solemn Egyptian affair, one incident was reported as follows: "The beautiful maiden and her lover, Rameses, are separated and Amebi is thrown into the Nile as a sacrifice to appease the god's wrath–and while this last portion of the picture was going on there was 'Maggie Flathead' at the piano grinding out 'Oceana Roll' . . . "

(*The Moving Picture News,* Nov. 11, 1911.)

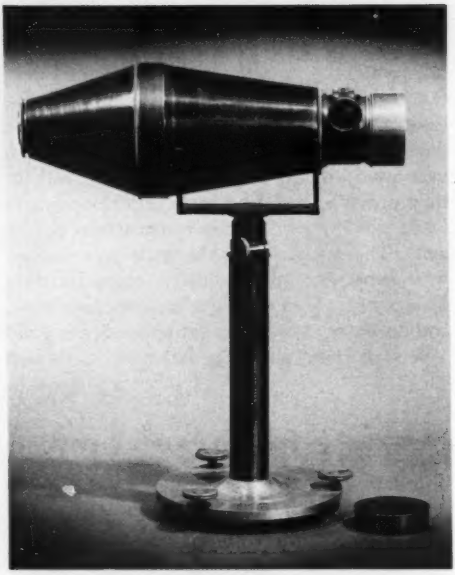


CAMERA AND EQUIPMENT, French, for taking and processing daguerreotypes of one-sixth size (8.1 x 7.1 cm.). Designed by Alexis Gaudin; manufactured by N. P. Lerebours, 1841. Outer wooden box (H. 23.2 cm., L. 21.5 cm., W. 26.2 cm.) serves both as camera and carrying case for accessories. Simple lens, mounted in telescoping brass tubes, focal length, 8 cm.; equivalent effective aperture, *f*/4. Front of lens mount marked "Lerebours à Paris." Rotating Waterhouse stops with apertures equivalent to *f*/4, *f*/8, *f*/24. Following accessories packed in box:

(1) Coating box, glass-lined
(2) Mercury bath, with sliding support.
(3) Two single plate holders.
(4)) Slotted box to hold 12 plates.

Cromer coll. (Neg. RL 40745)

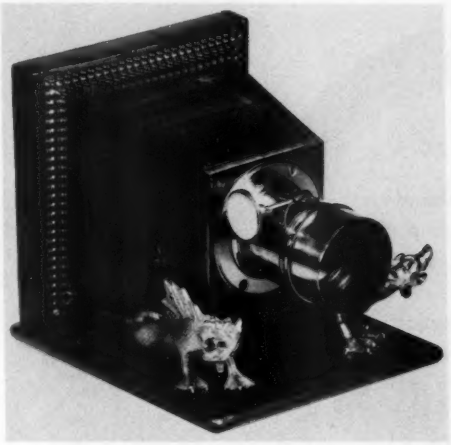
The apparatus is described and illustrated in Alexis Gaudin and N. P. Lerebours, Derniers perfectionnements apportés au Daguerréotype, *Paris, N. P. Lerebours, 1841. The authors state "What especially distinguishes this camera from others yet built, are the variable diaphragms which can be placed at will in front of the lens." Although Niépce apparently made use of a camera with adjustable iris, this is the first mass-produced camera fitted with what later became known as Waterhouse stops.*



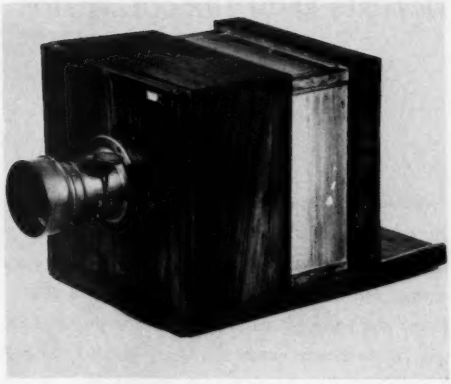
CAMERA, GERMAN, for circular plates 9 cm. in diameter. Designed by Josef Petzval, 1841; manufactured by P. F. von Voigtländer. All-metal construction, with telescoping stand (L. 36 cm.; H. with stand at lowest position, 36 cm.; Diam. 10.5 cm.). Rear cone, fitted with magnifying eyepiece, when removed discloses ground glass. Lens designed by Petzval; focal length 150mm., equivalent effective aperture, *f*/3.6. Entire camera loaded in darkroom after focusing; cradle assures that camera will be returned to same location. Camera body marked "No. 81/Voigtländer & Sohn/in Wien." Gift of Willoughby Camera Stores, New York, N. Y.

The first all-metal camera, and the first high-aperture lens. For a description of the lens see Rudolf Kingslake, "Petzval's Lens and Camera," Image, *II (1953), 60-61. The cammera was especially popular in America, where it was sold by Frederick and William Langenheim.*

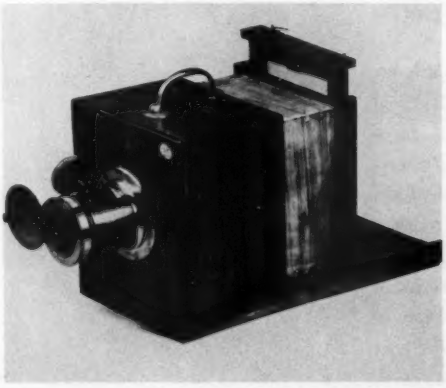
Copies of the photographs appearing in the Indexes may be had upon order. Please order by the negative number appearing at the end of the descriptions. Prints are supplied as 8 x 10 glossies at $2.00 each.



CAMERA, FRENCH, for quarter plates (82.6 x 10.8 cm.). Made by Bourguin, Paris, 1844. Wooden box in form of truncated pyramid, supported by bronze dragons, Petzval type lens, in focusing mount; focal length 19 cm.; equivalent effective aperture, *f*/6. Cromer coll. (Neg. 3301).



CAMERA, FRENCH, for whole plates (ground glass: 17.5 x 17 cm.). Maker not known. Telescoping wooden boxes (L. 39 cm ; W. 2515 cm.; H. 27 cm.). Unmarked lens, in sliding lens board. Brass barrel with focusing screw; focal length 8 cm.; equivalent effective aperture, *f*/3.5. No provision for diaphragms. Cromer coll. (Neg. 3303). *The camera bears a close resemblance to one described and illustrated in Alexis Gaudin and N. P. Lerebours,* Dernier perfectionnements apportés au Daguerréotype, *Paris, N. P. Lerebours, 1841.*



CAMERA, FRENCH, for quarter plates (9.8 x 12.5 cm.). Maker not known. Telescoping wooden boxes; bed hinged to fold over back at minimum extension (L. extended, 32 cm.; folded, 16 cm.; H. 18.4 cm.; W. 14.8 cm.). Lens marked "Photographe/à Verres Combinés/ Inventé par/Charles Chevalier/, Ingenieur Opticien/Palais Royale 158/Paris." Focal length, 21 cm.; equivalent effective aperture, *f*/6. Cromer coll. (Neg. 3302).

TRADE CARD for Richebourg, Paris photographic stock house. Lithograph (12 x 10.2 cm). The man shown taking a photograph uses a camera like the one above. Cromer Coll.

Arthur Rothstein multiplies a sense of humor with this photograph. Only the few who have recently happened upon the old tavern could chuckle over it: photographed it reaches many. He also makes clear once again that signs of the times shift their meaning. Here the original meaning, serious to its contemporaries, amuses ours. The Rules of the Tavern are humorous to us, if not funny. Not so the sickle over the clock. What that symbolizes we take seriously whereas our forefathers found death so frequent and so close to them they could ridicule it regularly.

The photograph is a so called "documentary." It is also made with great purity of medium. Nevertheless, or perhaps because of these qualities, the objects shown br[illegible]g to mind a class of persons. From the photograph we reconstruct the appearance and nature of the itinerant worker; muddy boots, rough unshaven faces, with pennies to pinch or to spend, living on borrowed time. And if the photograph is not enough to set the imagination running there is the name of this place in Vermont, Smuggler's Notch.

Rothstein made the photograph while he was with his first employer, the Farm Security Administration. One of several photographers on this historical project to document the condition of the nation, he was also one of several who somehow exceeded the survey requirements of the project. Rothstein somehow turned in documents with a flavor and a significance and a spirit such as this.

When we look for reasons why Rothstein was able to do so, we look for the man behind the photographs. It would be unfair to load this one picture with all for which Rothstein stands, or all that he is. It is not impossible, however, to say that this picture is one crystallization of something in his nature from which he never strays very far. From this photograph we can see that his reporting of facts is tempered with a certain kind of standard. He compares men to something that is a little bigger than men—not too big, a clock, a sickle, the rules of society.

RULES
OF
This Tavern.
For pease a night for Bed.
Sixpence with Supper.
Not more then five to sleep in one bed.
No boots to be worn to bed.
Organ Grinders to sleep in the Wash-house.
No dogs alloud in the Kitchen ... nor Beer.
Nor upstairs on or under no account!
No Razor Grinders or Tinkers ---- to Ken in.
By Order of Prop.

SMUGGLER'S NOTCH, VERMONT. 1937 by Arthur Rothstein.

BOOK REVIEWS

THE STORY OF THE CAMERA IN AUSTRALIA by Jack Cato. Melbourne, Georgian House, 1955. 187 pp, 193 illust. approx. $20.00.

The Story of the Camera in Australia is as much a history of the country as it is of photography. "When this study was begun," according to Jack Cato, "nothing had been previously written, nor was anything known, about the early phase of photography in Australia. Yet the story was always here, hidden away in dusty files in our libraries." And he continues, "Fortunately then, we can begin our story free of inaccuracies of a legend, for we have reliable and dated news reports of everything that happened at the time."

This quotation indicates the entire spirit of the book; the word "story" describes the approach exactly. From letters, newspaper articles, firsthand reports, illustrations in books and portfolios, photographs seen in libraries, recent finds such as the B. O. Holterman collection (*Image*, Vol. IV, pp 22, 23) of the work of Bufoy Merlin and Charles Baylis in the Australian Goldfields which Keaste Burke of the *Australasian Photo Review* found in a barn, Cato reconstructs the part the youngest visual medium, photography, played in the growth and development of the youngest continent to be civilized, Australia. The camera probably meant much the same in every country so far as the individual Englishman, German, Hungarian, Japanese was concerned; but few writers have made the point so vividly or the atmosphere so clear as Mr. Cato.

There is one most interesting example of this. Cato tells about the place of the "show cases" in Australian society. These glassed in display devices, since most photographic galleries were on the second or top floors, were set on the curbs of the streets. No woman of Sydney who had to sew her own dresses, and we gather that most did, ever started a new gown without first consulting the show cases to see what the wealthy women of the town had recently been photographed in, directly imported from London or Paris.

The story of the camera in Australia is told through biographies; short, long, all packed with information and anecdote. The entire range is included: the commercial operators who photographed the fashionable world, such as H. Walter Barnet; the documentarians of the island peoples such as John William Lindt; the explorers such as Frank Hurley who accompanied the Mawson expedition to the South Magnetic Pole; the pictorialists such as Harold Casneaux and Dr. Julian Smith; and the first of all, daguerreotypist G. B. Goodman who toured the big cities for about five years starting in 1842.

In the chapter on the motion picture Cato claims that *The Soldiers of the Cross* made by Salvation Army Commandant Booth, and shown first in Melbourne 13 September 1900, was the world's first "motion picture story." Without quibbling about what is and what is not a motion picture story, there is at least one movie made prior to 1900 that seems to fit Cato's definition. There may well be others. *The Motion Picture World* for 1908 ran an interview with Richard G. Hollaman who said that he made a motion picture of the Christ story, *The Passion Play* with 23 scenes, on the roof of the Grand Central Palace in New York during november of 1897. He further said that the Edison Company delivered a print of it for a first showing at the Winter Garden of the Eden Musee, January 31, 1898. Several letters from clergymen dated variously during 1898 compliment the maker on its religious importance. First or not, it is interesting to note that the same story was used by two different movie makers, at nearly the same time, and 10,000 miles apart.

MINOR WHITE

BEFORE BARBED WIRE by Mark H. Brown and W. R. Felton. New York, Henry Holt and Company, 1956. 254 pp. 124 illust. $10.00.

Before Barbed Wire, by Mark H. Brown and W. R. Felton, featuring L. A. Huffman, "Photographer on Horseback," is a companion volume to their book *The Frontier Years* with L. A. Huffman, "Photographer of the Plains," (*Image*, February 1956).

The format of both books is the same. In sequel we travel the open range between the time of the exploits of the Red and White buffalo hunters and the coming of the army of railroad builders. The photographs of this period, before the west was "fenced in," comprise the largest and best part of Huffman's collection. Original quotations from old letter

files, cowboy gossip and detailed life experiences of the many men and women named in these pages constitute the tremendous amount of historical research devoted to giving the text a rich biographical quality.

Huffman's "snappin machine" captured the Man on the Horse, who was the central figure of these times, in all the action of his daily life. He tells the story of cabin homes, the trail and roundups, cow camps, broncho busting and branding, the shearing of sheep and lambing, in his superb photographic account. You hear creaking leather, feel the heat, smell sweat and dust because the pictures were taken while the job was being done.

In these two volumes Brown and Felton give us the frontier not as a place, but as a time and a way of life.

M. BLICK

THE IDEA OF LOUIS SULLIVAN by John Szarkowski. Minneapolis, University of Minnesota Press, 1956. 163 pp, 93 illust., $10.00.

Examples of the architecture of Louis Sullivan are shown in photographs by John Szarkowski. The large format of the book (9 x 12 inches) helps in every instance to make whole buildings look their size and details come through impressively.

Szarkowski has selected text to go with the photographs, selected them from the writing of Sullivan himself, workmen, friends and clients; and his selection is splendid. One might say that he selected his text like a photographer, neatly, succinctly and to the point. As one reads and looks at the pictures a remarkable reenactment of the idea of Louis Sullivan is experienced.

Sullivan, who was an articulate architect, abbreviated this idea in the phrase "form follows function." To Sullivan this was not a formula but a dynamic, active inner growth. It was out of the dynamics of his own growth as a man, as an architect and as an artist. It enabled him to turn the course of architecture at a time when new materials such as steel and glass were coming into general use.

The idea of "form follows function" is completely organic, and therefore not easy to grasp from the slogan as many an architect since has discovered. Szarkowski apparently caught it, and caught the fever of it as well. There would be little other reason for the devotion to the project. How else could he have been so successful in capturing the feeling of this idea in photographs?

Rarely have I seen a book of architectural photography that sets out to get the spirit of an architect and captures it for the reader. The combinations of text and pictures do the job remarkably well. The brief essay on the life of Sullivan that Szarkowski wrote is a model of compactness.

MINOR WHITE

On Photography; a Source Book of Photo History in Facsimile, has just been published by Century House, Watkins Glen, N. Y. Edited by Beaumont Newhall, Curator of the George Eastman House, the volume is an autobiography, written by the men who invented the basic techniques and the men who used them.

The articles, which range from Daguerre's complete instruction manual of 1839 to a satirical essay by James Thurber from the *New Yorker,* are reproducel in exact facsimile by means of photolithography. Rare, original books were made available for the reproduction camera by libraries both here and abroad. The result is a collection of writing about photography which otherwise would be accessible only to students who are in a position to make use of the major photographic libraries in Rochester, N. Y., New York City, Washington, London and Paris.

The list of contributors reads like a Who's Who; Thomas Wedgwood, Nicéphore Niépce, L. J. M. Daguerre, H. Fox Talbot, F. S. Archer, R. L. Maddox, George Eastman, E. H. Land among the inventors; Oliver Wendell Holmes, Charles Dickens, George Bernard Shaw, James Thurber among the writers and critics; P. H. Emerson, Alfred Stieglitz, Paul Strand, Alvin Langdon Coburn, Edward Weston, Ansel Adams, Henri Cartier-Bresson among the photographers.

The articles are linked together by short explanatory paragraphs, so that in fact the book is a history of photography.

Although primarily an anthology, the book is illustrated with pictures taken by the authors. A color reproduction of one of the earliest existing color photographs, dated 1877, serves as a frontispiece.

GEORGE EASTMAN HOUSE ASSOCIATES CALENDAR

Exhibitions in the Dryden Gallery

December 14, 1956-February 11, 1957

PHOTOGRAPHS BY WYNN BULLOCK
Lyrical and romantic photographs by one of the better known West Coast photographers.

100 PHOTOGRAPHS BY EDWARD WESTON
The first showing of a traveling exhibition organized for the Smithsonian Institution.

Exhibitions in the Study Room

January 1957

Jerome Liebling of Minneapolis, Minnesota.

February 1957

Philip Hyde of California.

Travelogues

January 7, 1957

EAST OF THE ANDES by Stephen Thomas
Director Rochester Museum of Arts & Sciences.

February 4

FATHER WAS TAKEN by Alexander Beach: traveling to Ireland, England, Scandinavia, Switzerland.

Associates Film Program—Dryden Theater

January 19, 1957

WHITE SHADOWS IN THE SOUTH SEAS — camera work by W. S. Van Dyke.

February 16

SEVENTH HEAVEN — with Janet Gaynor and Charles Farrell.

THE DRYDEN THEATER OF THE GEORGE EASTMAN HOUSE